UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,123	11/26/2001	Andrew G. Swales	SAA-5-2	6275

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EXAMINER
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ART UNIT	PAPER NUMBER
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NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 March 2008*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-30* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *11-30* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
        1.☐ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1.   This Action is in response to Application Number 10/003,123 received on

3/20/2008.

2.   Claims 11-30 are presented for examination.

3.   Applicant's arguments, see Appeal Brief, filed 3/20/2008, with respect to claims

11-30 have been fully considered and are persuasive. The rejection of Salas in view of

Hershey has been withdrawn.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

4.   Claims 24-30 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

Claim 24 includes a module comprising a controller, a control processing unit, a

preregistered TCP port, and an optimal communication stack, all of which may be

implemented in software. As such, the module may be a software module (i.e.

computer program).

Computer programs claimed as computer listings per se, i.e., the descriptions or

expressions of the programs are not physical "things". They are neither computer

components nor statutory processes, as they are not "acts" being performed. Such

claimed computer programs do not define any structural and functional

interrelationships between the computer program and other claimed elements of a

computer, which permit the computer program's functionality to be realized.

M.P.E.P. 2601.1 Section I states, "Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and USPTO personnel should treat a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, as nonstatutory functional descriptive material."

Claim 24 does not provide the computer-readable medium needed to realize the program's functionality. As such, claims 24-30 not limited to statutory subject matter and are therefore non-statutory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 11, 13-19, 21-24, 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Venkatraman et al. (US 5,956,487) in view of Brenners et al. (RFC 1945, Hypertext Transfer Protocol).

6.   Regarding claim 11, Venkatraman disclosed a network communication system comprising:

a master device for initiating a request message (Fig. 4, any of computer systems 90-92);

an input/output slave device being exclusively responsive to the request message of the master device (col. 2, lines 15-25, device with input/output circuitry that a user controls); an adapter device directly attached to a body of the slave device (col. 2, lines 15-20, embedded network interface), the adapter device comprising an interface circuit for transmitting a response message to the master device in response to the request message (col. 2, lines 15-20, the network interface enables access to the device webpage by a web browser, the webpage within the device), the response message correlating to an output received from the slave device, the adapter device configured to directly attach to an in-data port and an out-data port of the body of the slave device; and

an optimal protocol utilized to communicate the request message and the response message between the master device and the adapter device, the optimal protocol comprising: an IP protocol, a TCP protocol (HTTP is an application layer protocol that takes place over TCP/IP) and, an application layer protocol wherein building and parsing of the response message is responsive to a first part of the request message (col. 2, lines 42-47, HTTP Protocol, col. 3, lines 15-36).

Venkatraman did not explicitly state wherein the request message is received on a preregistered TCP port selected from a plurality of TCP ports.

Brenners disclosed that the default TCP port for HTTP is port 80 (Brenners, page 10). Therefore the HTTP protocol uses a preregistered port of the plurality of TCP ports.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to use the default port 80 for HTTP communication since

the port is allocated to HTTP in order to obtain the predictable result of communicating

through the port that is specifically allocated for HTTP.

Claim 24 includes an Ethernet module with limitations that are substantially

similar to claim 11, including coupled to a network connection and a control processing

unit operably coupled to the Ethernet controller and directly attached to a factory

automation device. As shown above, the device includes an attached network interface

that is coupled to a network (see also, col. 3, lines 5-15, col. 4, lines 5-17). Therefore

claim 24 is rejected under the same rationale.

7.   Regarding claim 13, Venkatraman and Brenners disclosed the limitations as

described in claim 11, including wherein the response message is responsive to the

content of the first part of the request message (Venkatraman, col. 3, lines 25-36).

8.   Regarding claim 14, Venkatraman and Brenners disclosed the limitations as

described in claim 11, including wherein the master device exclusively initiates the

request message (Venkatraman, col. 3, lines 16-25).

9.   Regarding claim 15, Venkatraman and Brenners disclosed the limitations as

described in claim 11, including a set of predetermined response messages including at

least one predetermined response message (Venkatraman, col. 3, lines 19-26), each

predetermined response message being distinguishable by the first part of the request

message wherein the predetermined response message is determined from the content

of the first part of the request message and rapidly selected for quickly responding to

the request message (Venkatraman, col. 3, lines 15-26, col. 6, lines 5-15).

10.   Regarding claims 16 and 17, Venkatraman and Brenners disclosed the

limitations as described in claim 15.

          Venkatraman and Brenners did not explicitly state wherein the set of

predetermined response messages comprises a response message to an address

resolution protocol request message or a response message to an Internet control

management protocol request message.

          However, ARP and ICMP are standard protocols of the Internet Protocol suite

there were well known at the time the invention was made. Therefore it would have

been obvious to one of ordinary skill in the art at the time the invention was made to use

these standard protocols to provide addresses and error messages when such

instances are presented, since they are part of the five layer TCP/IP model and HTTP

includes TCP/IP, In order for the system to be able to provide such messaging when

needed.

11.   Regarding claim 18, Venkatraman and Brenners disclosed the limitations as

described in claim 15, including wherein the set of predetermined response messages

comprises a response message to a TCP connection request message (Brenners, page

10, "current practice requires that the connection be established by the client prior to each request").

12.   Regarding claim 19, Venkatraman and Brenners disclosed the limitations as described in claim 15, including wherein the set of predetermined response messages comprises a response message to a TCP disconnect request message (Brenners, page 10, "current practice requires that the connection be established by the client prior to each request and closed by the server after sending the response").

13.   Regarding claims 22, 23 and 30, Venkatraman and Brenners disclosed the limitations as described in claims 11 and 24. Brenners further disclosed that while the default port for HTTP is port 80, other ports can be used (Brenners, page 10).

Venkatraman and Brenners did not explicitly state wherein the optimal protocol exclusively utilizes a TCP port number 502 and any message not transmitted via the TCP port number 502 is ignored.

However, it would have been obvious to a network administrator to use any port number as desired, including port 502, since Brenners suggests that any port may be used for HTTP, in order to obtain the predictable result of listening at whatever desired TCP port for HTTP messages. See MPEP 2144.04 Section C.

14.   Regarding claims 27, Venkatraman and Brenners disclosed the limitations as described in claim 24, including wherein the optimal communication stack is configured to quickly provide the response message responsive to a request message (Venkatraman, col. 6, lines 5-15).

15.   Regarding claims 28, Venkatraman and Brenners disclosed the limitations as described in claim 27, including wherein the communication message further comprises the request message having a first portion and the response message being responsive to the first portion of the request message wherein the response message is determined from the content of the first portion of the request message and rapidly selected for responding to the request message (Venkatraman, col. 3, lines 15-26, col. 6, lines 5-15).

16.   Regarding claims 21 and 29, Venkatraman and Brenners disclosed the limitations as described in claims 11 and 27, including wherein the communication message is limited to a length that is less than both a TCP transaction length and a maximum transmission unit (Brenners, page 10, 38, using TCP would limit the message to a length less than TCP transaction length and a maximum transmission unit).

17.   Claims 12, 20, 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Venkatraman and Brenners as applied to claims 11 and 24 above, and further in view of Salas et al. (US 5,862,391).

18.   Regarding claims 12 and 25, Venkatraman and Brenners disclosed the

limitations as described in claims 11 and 24.

Venkatraman and Brenners did not explicitly state wherein the application layer

protocol is MODBUS.

Salas disclosed a power management control system in which users are able to

use their existing LAN to communicate with devices implementing the Modbus RTU

protocol (Salas, col. 2, lines 20-34).

Both Venkatraman and Salas provide application layer protocols to

communicate/control devices on a network.

Therefore it would have been obvious to one of ordinary skill in the art at the time

the invention was made to substitute the HTTP protocol with the Modbus protocol in

order to implement a system to control devices using such a protocol, thereby making

the system more scalable across multiple devices.

19.   Regarding claims 26, Venkatraman and Brenners disclosed the limitations as

described in claim 25, including wherein the communication message is limited to a

length that is less than both a TCP transaction length and a maximum transmission unit

(Brenners, page 10, 38, using TCP would limit the message to a length less than TCP

transaction length and a maximum transmission unit)

20.   Regarding claims 20, Venkatraman and Brenners disclosed the limitations as

described in claim 15.

Venkatraman and Brenners did not explicitly state wherein the set of

predetermined response messages comprises a response message to a MODBUS

request message as a TCP data frame.

Salas disclosed a power management control system in which users are able to

use their existing LAN to communicate with devices implementing the Modbus RTU

protocol (Salas, col. 2, lines 20-34), in which the LAN packets transmitted comprise the

serial Modbus communications data packet (Salas, col. 6, lines 20-25).

Both Venkatraman and Salas provide application layer protocols to

communicate/control devices on a network.

Therefore it would have been obvious to one of ordinary skill in the art at the time

the invention was made to substitute the HTTP protocol with the Modbus protocol in

order to implement a system to control devices using such a protocol, thereby making

the system more scalable across multiple devices.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in

the references applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are

applied to specific limitations within the individual claim, other passages and figures

may apply as well. It is respectfully requested from the applicant in preparing

responses, to fully consider the references in entirety as potentially teaching all or part

of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Bret Dennison whose telephone number is (571) 272-3910. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/J.B.D./
Examiner, Art Unit 2143

/Nathan J. Flynn/
Supervisory Patent Examiner, Art Unit 2143